JUN 23 1993

August 29, 1990

Winston-Salem Regional Office

Report of Subsurface Investigation Pantry West Pine Street (Hwy. 89) Mt. Airy, North Carolina

Prepared for:
Mr. Gary York
York Oil Company
P. O. Box 78
White Plains, North Carolina 27031

Prepared by:
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SPATCO Environmental
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Kernersville, North Carolina 27284



SUBSURFACE INVESTIGATION

At the request of Mr. Gary York, SPATCO Environmental initiated an investigation of The Pantry site located on West Pine Street (Hwy. 89) in Mount Airy, NC. As the property was currently the site of a Pantry convenience store and an underground storage tank and dispensing system was located on the property, the investigation for possible petroleum hydrocarbon contamination was conducted in conjunction with a real estate transaction involving the site.

On April 2, 1990 SPATCO Environmental personnel visited the site with a sub-contract drill rig and crew to auger five (5) soil borings. This report summarizes the field work completed on that date and laboratory results for the five (5) of the soil samples collected.

Enclosed are the following items:

Appendix I - A copy of the soil sample laboratory analyses for five (5) soil samples collected from the borings augered on April 1, 1990.

Appendix II - A chain of custody record verifying the soil samples were secure and at the proper temperature when delivered to the independent sub-contract laboratory.

Appendix III - Figure 1 - A general site sketch indicating soil boring locations.

Appendix IV - Boring logs for each of the five (5) borings constructed at the site.

SOIL SAMPLING PROCEDURES AND OVA EVALUATION

Soil samples were collected at approximately 5' intervals from each of the four (4) borings constructed on April 2, 1990 with a total of sixteen (16) individual soil samples collected from the site on that date. The locations of the borings were chosen to encounter the highest probability of hydrocarbon contamination. The subsurface materials encountered during the drilling process are shown on the enclosed boring logs for each boring (see Appendix IV). The drill rod and augers use in construction of the soil borings were steam

cleaned prior to and between each use. The splitspoon tube sampler was thoroughly decontaminated prior to each use by a soap and water rinse, tap water rinse, isopropyl alcohol rinse and a final rinse in distilled water. To minimize the risk of accidental contamination, new disposable latex gloves were worn during each transfer of soil from splitspoon to sample jar. The results of soil sample OVA evaluation are given in Table 1.

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Table 1 - Soil sampling depths and OVA readings					
SAMPLE #	DATE COLLECTED	DEPTH COLLECTED	OVA READING	SENT TO LAB	
B-1-A	4-2-90	3.,5-5.0 ft.	5 ppm *	No	
B-1-B	4-2-90	8.5-10.0 ft.	1 ppm	No	
B-1-C	4-2-90	13.5-15.0 ft.	ND**	Yes	
Boring No. 1 t	Boring No. 1 terminated at 16.5 ft.				
SAMPLE #	DATE COLLECTED	DEPTH COLLECTED	OVA READING	SENT TO LAB	
B-2-A	4-2-90	3.5-5.0 ft.	4 ppm	No	
B-2-B	4-2-90	8.5-10.0 ft.	3 ppm	No	
B-2-C	4-2-90	11.0 ft.º	3 ppm	No	
B-2B-D	4-2-90	13.5-15.0 ft.	7 ppm	Yes	
Boring No. 2 terminated at 16.5 ft. Output Output Description Output Description Output Description Output Description Output Description Description Output Description Output Description Description Output Description Description					
SAMPLE #	DATE COLLECTED	DEPTH COLLECTED	OVA READING	SENT TO	
B-3-A	4-2-90	3.5-5.0 ft.	4 ppm	No	
B-3-B	4-2-90	8.5-10.0 ft.	7 ppm	No	
B-3-C	4-2-90	13.5-15.0 ft.	2 ppm	Yes	
Boring No. 3 terminated at 16.5 ft.					
SAMPLE #	DATE COLLECTED	DEPTH COLLECTED	OVA READING	SENT TO LAB	
B-4-A	4-2-90	3.5-5.0 ft.	12 ppm	No	
B-4-B	4-2-90	8.5-10.0 ft.	11 ppm	No	
B-4-C	4-2-90	13.5-15.0 ft.▼	15 ppm	Yes	

Boring No. 4 1 ▼ Water enco	terminated at 16.5 untered.	ft.		
SAMPLE #	DATE COLLECTED	DEPTH COLLECTED	OVA READING	SENT TO
B-5-A	4-2-90	3.5-5.0 ft.	ND	No
B-5-B	4-2-90	8.5-10.0 ft.	ND	No
B-5-C	4-2-90	13.5-15.0 ft.▼	ND	Yes

Boring No. 5 terminated at 16.5 ft.

Water encountered.

* ppm = parts per million

LABORATORY ANALYSIS

Soil samples for laboratory analysis were immediately placed in a chilled cooler after collection, refrigerated while stored at SPATCO Environmental offices, and shipped to the subcontract laboratory in a chilled cooler. Five (5) of the soil samples collected were submitted to Law and Company Laboratories for analysis. Samples for analysis were chosen based upon their stratigraphic positions and OVA evaluation. All samples were analyzed for Total Petroleum Fuel Hydrocarbons (TPFH) - EPA Method 5030 GC. In addition, sample B-5-C was analyzed for Total Petroleum Hyrocarbons (TPH) - EPA Method 3550. The results of laboratory analyses are summarized in Table 2.

Table 2 - Results of laboratory analysis.

SAMPLE #	TPFH EPA Method 5030 (ppm)	TPH EPA Method 3550 (ppm)
B-1-C	ND*	NA * *
B-2B-D	ND	NA
B-3-C	ND	NA
B-4-C	ND	NA
B-5-C	ND	ND

ND = No detection at the specified detection limit.

^{**} ND = no detection with Organic Vapor Analyzer

Detection Limit: Total Petroleum Fuel Hydrocarbons - 10 ppm
Total Petroleum Hydrocarbons - 10 ppm

**NA = No analysis (This analysis not requested for this sample).

REGULATIONS AND COMMENTS

It is my understanding that the North Carolina Division of Environmental Management (NCDEM) currently requires remedial action be taken on soils that equal or exceed 10 ppm TPH or TPFH. However, soils that equal 10 ppm TPH or TPFH, but do not exceed 85 ppm TPH or TPFH, may not require remediation depending on site specific characteristics.

The soil sample laboratory results in Table 2 indicate that if contamination is present at this site, it is present in levels below those requiring remediation. No action is recommended at this site.

Based on OVA evaluation and the laboratory analyses performed on soil samples collected from the five (5) soil borings which were constructed adjacent to each tank basin area, vapor well monitoring appears to be a viable option as a leak detection method at this site.

This report is for your files. I regret the delay in forwarding a written copy of the report to you and hope it has not inconvenienced you in any way. If we can help you further in other matters, please do not hesitate to call.

/jh

Consulting and Analytical Chemists

ESTABLISHED 1903

RECEIVEL

APR 9 1990

Main Office 1711 Castle Street P.O. Box 629 Wilmington, N.C. 28402

919-762-7082 9**7-10-1-20**-66 FAX 919-762-8785

SOUTHERN PUMP AND TANK COMPANY ENVIRONMENTAL DIVISION 556-L ARBOR HILL ROAD KERNERSVILLE, N.C. 27284 ATTN: ALEX McGILVARY

DATE RECEIVED:
DATE COLLECTED:
COLLECTED BY:

4-04-90 4-02-90

LAB I.D. #

CUSTOMER EW 1893

W/O# 30602

SAMPLE DESCRIPTION:

SOIL - PANTRY HWY 89

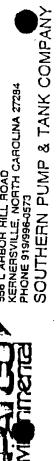
(B-2B-D)

TESTS/SAMPLES UNITS B-1-C HB-2-D B-3-C B-4-C B-5-C TOTAL PETROLEUM FUEL HYDROCARBON PPM <10* < 10* < 10* < 10* <10* TOTAL PETROLEUM HYDROCARBON PPM <10*

EPA METHOD # 5030 GAS CHROMATOGRAPH (TPFH)
EPA METHOD # 3550 GAS CHROMATOGRAPH (TPH)

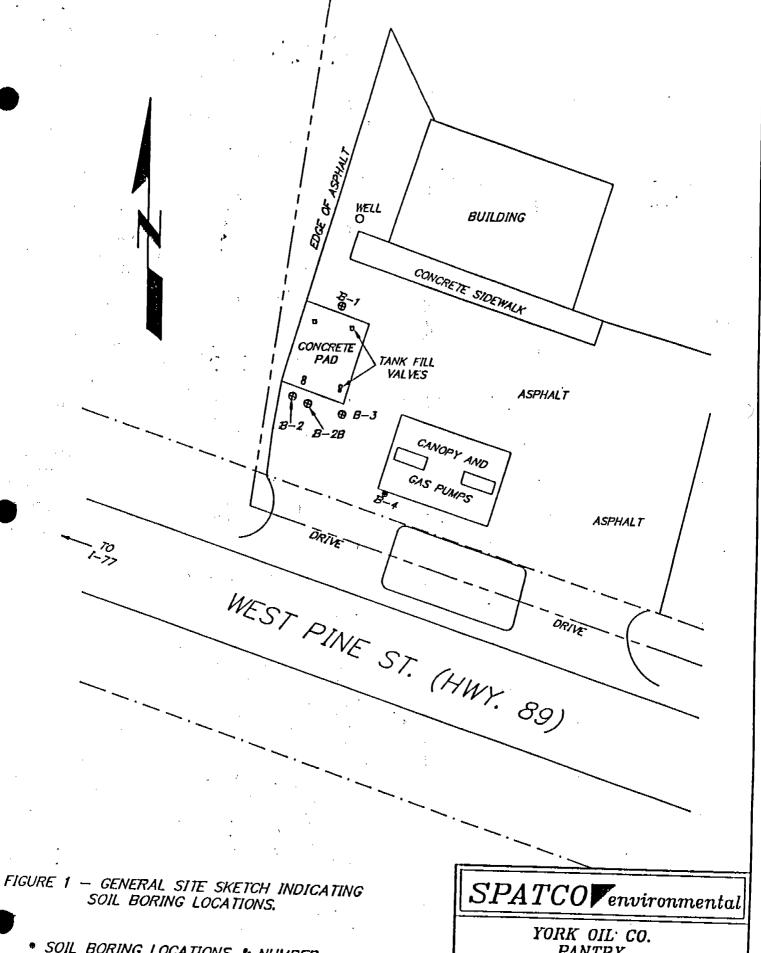
DETECTION LIMITS = 10 PPM * BELOW DETECTION LIMITS

LABORATORY DIRECTOR



DATE TIME OATE TIME (for lap use only) SAM ID NO APR 9 1990 RECEIVED ö Page __ TIME | RELINQUISHED BY: RELINGUISHED BY Dotetion No 15pm 25gm 78% ANALYSES DATE Х DATE TIME RECEIVED BY: × X × X X NO OF CONTAINERS 4-2.90/1120h 4-2-30/1420 hus 4-2-90/1510hus 4-2-30/12101 4-2-90/1310 has DATE/TIME TIME RELINGUISHED BY:
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• SOIL BORING LOCATIONS & NUMBER

SCALE: 1" = 30'

PANTRY HWY. 89 W.

MT. AIRY, N.C. DATE: JULY 26, 1990 DRAWN BY: T.S.B.

GROUNDWATER PROTECTION, INC. LOG OF BORING Location The Pantry (Hwy. 89) ---- Driller Mike McConahey Mt. Alry, NC Drill Crew Butch, Phil ient Spatco-Kernersville ______ Boring Date 4-2-90 oject # Boring # B-4 Method: Hammer adv. ____, Thru auger __X_, Rotary ____, Split Spoon _X_, Shelby Tube ____ Static water level _____ Sample Sample Sample Water Description Depth N Value <u>Type</u> Presence Remarks 0.0'-1.0' N/A · AUGER NO RED ORANGE SILIY CLAY 1.0'-5.0' 5.0'-6.5' 7-12-20 SS 6.5'-10.0' N/A AUGER 10.0'-11.5' <u>21-19-18</u> SS RED ORANGE TAN FINE SANDY SILTY CLAY 11.5'-15.0' __ N/A__ AUGER YES 15.0'-16.5' 10-20-12 SS RED BROWN SILTY SAND BORING TERMINATED AT 16.5 FEET.

GROUNDWATER PROTECTION, INC. LOG OF BORING Location The Pantry (Hwy, 89) Driller Mike McConahev Mt. Airy, NC Drill Crew Phil, Butch ient Spatco-Kernersville Boring Date 4-2-90
Boring # B-1 roject # Method: Hammer adv. ____, Thru auger ________, Rotary _____, Split Spoon ______X, Shelby Tube _____ Static water level Sample Sample Sample Water Description # Depth N Value Type Presence Remarks 0.0'-1.0' N/A ' AUGER ASPHALT & SIONE Ю 1.0'-5.0' RED BROWN SILITY CLAY 5.0'-6.5' 17-17-18 SS BLACK SILTY CLAY 6.5'-10.0' N/A AUCER 10.0'-11.5' 18-19-18 SS YELLOW TAN SILTY CLAYEY SAND WITH QUARIZ FRAC 11.5'-15.0' N/A AUGER 15.0'-16.5' 29-35-50/3 SS YELLOW BROWN TAN MICACEOUS SANDY SILIT-PWR BORING TERMINATED AT 16.5 FEET.

GROUNDWATER PROTECTION, INC. LOG OF BORING Location The Pantry (Hwy. 89) Mike McConahev ___ Driller Drill Crew Butch, Phil Mt. Airy, NC Spatco-Kernersville Boring Date <u>4-2-90</u> oject # Boring # B-2 Method: Hammer adv. ____, Thru auger \underline{X} __, Rotary ____, Split Spoon \underline{X} __, Shelby Tube ____ Static water level Sample Sample Sample Water Description # Depth N Value Type Presence Remarks N/A 0.0'-1.5' AUGER ASPHALT & SIONE NO 1.5'-5.0' BROWN SILITY CLAY 1 5.0'-6.5' 11-10-16 SS ORANGE FINE SANDY CLAYEY SILT 6.5'-10.0' N/A **AUGER** 26-21-50/5 2 10.0'-11.5' SS 11.5'-15.0' N/A AUGER YES ORANGE FINE SANDY CLAYEY SILT WITH* 15.0'-16.5' 3 3-7-8 SS BORING TERMINATED AT 16.5 FEET. *QUARIZ FRAGMENIS-PWR

GROUNDWATER PROTECTION, INC. LOG OF BORING Location The Pantry (Hwy. 89) Mike McConahey ______ Driller Mt. Alry, NC Drill Crew Butch, Phil Spatco - Kernersville Boring Date 4-2-90 Project # B-3 Boring # Method: Hammer adv. ____, Thru auger _____, Split Spoon X , Shelby Tube ____ Static water level Sample Sample Sample Water Description Depth N Value Type Presence Remarks 0.0'-1.0' N/A · AUGER Ю ASPHALT & CONCRETE 1.0'-5.0' BROWN ORANGE RED SILITY CLAY 5.0'-6.5 5-13-12 6.5'-10.0 AUGER 2 10.0'-11.5' 9-12-14 SS WHITE TAN FINE SANDY SILTY CLAY 11.5'-15.0' N/A AUGER TAN WHITE FINE SANDY CLAY 15.0'-16.5' 5-4-9 SS BORING TERMINATED AT 16.5 FEET.

GROUNDWAT LOG OF BO	ER PROTECTIO	ON, INC.		•	•	
Location	The Pantry (Hwy. 89)			11er <u>Mike McConahey</u>		
A ient	Mt. Airy, NC			Dri1	1 Crew Phil, Butch	
			Bori Bori	Boring Date 4-2-90 Boring # HA-1 (B-2B)		
Nethod: Static wa	Hammer adv. ter level	, Hand auge	er <u>X</u> ,Rota		t Spoon X, Shelby Tube	
Sample #	Sample Depth	N Value	Sample Type	Water Presence	Description Remarks	
	0.0'-1.5'	N/A	н.а.	МÓ	CONCRETE & SIONE	
-	1.5'-3.0'				BROWN GRAY BLACK SANDY SILIT	
	3.0'-5.0'	<u> </u>			RED ORANGE FINE SANDY SILIT	
1	5.0'-5.5'	<u> </u>			ORANGE FINE SANDY SILIT	
: 	5.5'-10.0'					
2	10.0'-10.5'					
	10.5'-15.0'					
3	15.0'-16.5'	4-7-7	SS			
	<u> </u>				BORING TERMINATED AT 16.5 FEET.	
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